

## DECIDAMP® DC30

This Installation Guide provides recommendations to maximise the service life in various applications.



*Both parts are supplied in the required ratio of ingredients with a weight based mixing ratio of 10:1 of part A to B and must be mixed thoroughly before use.*

*Decidamp® DC30 with its visco-elastic damping properties works best in a constrained layer configuration (sandwich system), where the product is applied to counter plates that are then mounted onto substrates.*

## applications

- Marine: on hulls, deck and bulkheads to reduce vibration noise and structure borne noise
- Propeller and bow thruster area
- Floors, to reduce impact noise
- Heavy construction industries such as earthmoving equipment
- Portable generator and pump units
- Highly suited for Automotive / transport / rail industry

Please refer to our website [pyroteknc.com](http://pyroteknc.com) for latest information

### KEY INSTALLATION REQUIREMENTS

Decidamp® DC30 is a two-component polyurethane based damping paste, supplied in kit form consisting of:

- |                               |           |
|-------------------------------|-----------|
| Part A: Decidamp DC30 Paste   | 10 kg tin |
| Part B: Catalyst/curing agent | 1 kg tin. |

### PRE-TREATMENT OF SURFACES

- All substrates must be prepared to the yard standard: Clean, dry and free of any contaminants such as liquid, dirt, oil, flaky paint, rust, wax, grease, fibreglass release agents.

Clean surfaces using a suitable water-based or solvent-based cleaning agent. (A Silane based primer is best.) Compatibility with cleaning agents must be tested beforehand. Priming is recommended on corroded surfaces.

- Smooth surfaces: must be scuffed back to ensure a good bond. Rough surfaces only need to have dust and grease removed
- Uneven surfaces:
  - Horizontal: On warped horizontal surfaces or where surface has contours greater than 1-2mm, apply a levelling compound (Decidamp® SLC or equal) to smoothen out surfaces and allow it to set before using DC30 with the counterplate. Alternately level the surface, by trowelling in DC30 itself, before applying product with the counterplate.
  - Vertical surfaces: Fill in dips by trowelling in DC30, to provide a levelled surface. Then proceed to apply product as per instructions stated overleaf.

Alternately, place a screed of DC30, before applying product.

### NOTES PRIOR TO APPLICATION

- Ensure substrate temperatures are 10 to 35°Celsius (based on cure of bulk material in a full mix of 10kg)
- Note "Pre-treatment of surfaces" Mixing curing times and 'counter plate to substrate' ratios in order to achieve a good damping result.
- Measure and mark the grid that the Decidamp DC30 product and counter plates will be installed in.
- Bond strength: A correctly mixed product, will usually be able to hold about 16kg/m<sup>2</sup> steel counter plate, in an overhead position without the use of props or temporary mechanical fastening. Heavier counterplates can be bolted on to the substrate without compromising performance, however individual tests are recommended.
- Installation on fire rated boundaries: Take extra care in measurements. On structural fire protection, insulation pins should be installed before applying Decidamp DC30.



Ensure proper preparation and application for best results.  
Decidamp® DC30 should always be bonded to surfaces that are clean, dry and free of contaminants.

#### MIXING

Add Part B to Part A and Thoroughly mix together using a power drill on low speed with a ribbon or paddle mixer. Allow approximately 3-5 minutes of mixing time for a full kit. Make sure to scrape the sides of the container allowing a better mix and dispersion of the curing agent (Part B).

If mixing in smaller quantities, precise measuring of DC30 paste versus curing agent is essential in establishing the correct viscosity and ensuring proper curing and a good bond between substrate and counter plate.

Once the two components are mixed, allow to set for up to 10 minutes. During this time, the product will thicken and increase in viscosity.

**Do not overwork as this will start curing process.**

#### APPLICATION

Use a 2mm notch trowel to apply Decidamp DC30 to the counter plate, not to the substrate. Applying DC30 on substrate results in much more product being used than is necessary. Final layer thickness achieved is approximately ½ of the tooth depth. i.e. 2mm spreader gives a 1mm final layer.

Once applied to the counter plate, position the counter plate on to the substrate. Apply firm, even pressure, whilst gently sliding the counter plate back and forth a few times (within a small field of movement less than 1cm) and give a firm tap with a hammer to avoid air-pockets and ensure the product has spread evenly. This is essential for a good bond, and for maximising performance.

If there is any slumping or slippage on the initial application of product, allow the mixed product to set for a further 5 minutes. You will then have 35 minutes to install the counter plates and Decidamp DC30 (at 25°C and 35% humidity).

**Failure to follow these guidelines may result in a poor bond, and may affect dampening performance.**

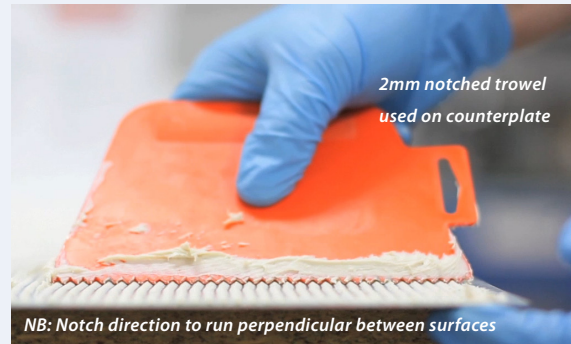
#### TILE SPACING

A sufficient gap between counter plates(1-2mm) is recommended

Ensure that counter plates do not come in direct contact with each other, or any structural component of the vessel/equipment, as this will adversely effect the performance.

Tile spacing also allows for expansion gaps during vibration, heat induced expansion or substrate swelling.

Counter plates can be mounted with or without spacers. However, 1mm tee spacers if used for vertical surfaces would effectively support and accurately space each plate.



## COUNTER PLATE TO SUBSTRATE RATIO

Counter plates need to be 1/3rd the thickness of the substrate. (e.g. For a 6mm steel substrate use a 2mm steel counter plate.)

For GRP/FRP sandwich substrates, counter plate thickness should be equal to the thickness of the glass skin in contact with the product.

Counter plate tile dimensions to be as large as possible with a minimum size of 200 X 200mm. Thickness of tile would depend on substrate

Pre-forming of counter plates may be necessary before application, particularly when installed on bow thruster tubes or on any curved surface.

## PRODUCT INFORMATION

**Substrates:** Can be used on Steel, Aluminium, GRP/FRP Laminate, GRP/FRP Sandwich and wooden structures, using the counter plates mentioned.

**Counter plates:** Depending on the structure, counter plates would normally be steel, aluminium, glass laminate, or plastic. Refer to 'Counter plate to substrate ratio' for more information.

**Coverage:** 1.3kg (mixed) of DC30 will provide a 1mm thick cured layer over an area of 1m<sup>2</sup>.

1mm thick coating using 11kg kit will give you 8m<sup>2</sup> coverage total.

**Water resistant:** Decidamp DC30 is water resistant, however where regular exposure is expected, Decidamp DC30 and its counter-plate should always be sealed with a suitable commercial waterproofing sealant/coating, applied well after complete curing of the material. This is to prevent corrosion of metal counter-plates and/or ingress of water behind the plates.

**Cure time and process:** Decidamp DC30 takes approximately 24 hours to fully cure. Once the two components are mixed, setting will start within 30 -45mins at 25°C and 35% humidity. Working in warmer climates with higher humidity, will shorten curing times. Polyurethane reacts with moisture and its reaction rate is effected by heat, working in warmer climates with higher humidity will shorten curing times.

**Operating temperature range:** Once cured, Decidamp DC30 can be used over a temperature range from -40 to 70 deg C

### Shelf life and Storage:

Part A and Part B - 24 months from date of supply in sealed containers.  
Un-opened kits to be stored between 10 and 30°C. Do not allow to freeze.  
Opened kits (unmixed) must be resealed and used within 2 months  
(Frequent opening of seal must be avoided)  
Mixed kits must be used immediately.

### Clean up and Safety:

Clean up with mineral turpentine or equivalent solvent.  
Once cured, Decidamp DC30 can only be removed by sanding back.  
Personal Protection Equipment (PPE) including eye protection, gloves and safety clothing are highly recommended.



Counterplate being applied to substrate

Please contact Pyrotek® for further information or detailed advice on your specific application.